

In re TON ET AL., Application No. 09/776,794
Amendment A

REMARKS

The Office action dated August 26, 2004, and the references cited have been fully considered. In response, please enter the following amendments and consider the following remarks. Reconsideration and/or further prosecution of the application is respectfully requested. No new matter is added by this submission.

Claim 1 is amended to correct a few typographical errors and to add to the preamble that based on the title of the originally filed application. Claim 3 is amended to add the word "said" to ensure there is proper antecedent basis and to remove the word "further." Claim 4 is amended to correct a typographical error to make it depend from claim 3 (instead of itself). Claim 9 is amended to recite that the first resource is not available (instead of available) after a timeout condition. Claim 12 is amended to correct two typographical errors - to add the word "and" and to change "the first resource" to "the resource" which has proper antecedent basis, and to add to the preamble that based on the title of the originally filed application. Claims 17-24 are cancelled without prejudice to reallocate claim fees to new claims 25-33 added herein. New claims 25-29 are means plus function claims based on pending method claims 1-5 and new claims 30-33 are means plus function claims based on pending computer-readable medium claims 12-15. These new claims are believed to be allowable for at least the reasons presented herein and have support in the original application at least for the same reasons for their corresponding claims.

The following remarks are numbered to reference the same numbered paragraphs of the Office Action to which they are directed (and in the order presented in the Office action).

Paragraph 2. Applicants appreciate the discovery of the typographical error, and claim 4 is amended herein to depend from claim 3. Therefore, Applicants request the objection to claim 4 be withdrawn.

In re TON ET AL., Application No. 09/776,794
Amendment A

Paragraph 5. Claims 1-10 stand rejected under 35 USC § 101 as being directed to non-statutory subject matter as being mental steps which can be practiced in conjunction with pen and paper. Applicants respectfully traverse this rejection as the Federal Circuit has stated "[t]he inclusion in a patent of a process that may be performed by a person, but that also is capable of being performed by a machine is not fatal to patentability." *Alco Standard Corp. v. Tennessee Valley Authority*, 1 USPQ2d 1337, 1341 (Fed. Cir. 1986), citing the United States Supreme Court in *Diagmond v. Diehr*, 450 U.S. 175 (1981). The Board of Patent Appeals and Interferences went further and stated in *Ex parte Nassim*, Appeal No. 91-2486 (B.P.A.I. 1991) (unpublished) that it does not follow that a method is drawn to nonstatutory subject matter simply because one or more of the recited method steps cannot be performed by a machine in reversing the Examiner's rejection as the invention was in the technological or useful arts even with a step that could not be performed by a machine.

The claims at issue in the present application are not directed to an abstract idea, law of nature, or natural phenomenon, but rather to that useful in the technological or useful arts, and Applicants respectfully request the § 101 rejection of the claims be withdrawn. Should the Office reassert the rejection, Applicants request the Office specifically cite the section of the current MPEP which authorizes the Office to make this particular rejection, especially as the "mental steps" doctrine as applied here is believed to be antiquated, and the claims clearly meet the requirements of 35 USC § 101.

Paragraph 3. Claims 1-24 stand rejected under 35 USC § 112, second paragraph for being indefinite. (Applicants note that the Office's numbering of the paragraphs are out of order. Also, it is standard practice to refer to line numbers of claims from their individual line numbers and not of their line numbers on a page.)

First, the Office action only provides an indication of the rejections for claims 1, 11, 12, 17, 18 and 21. Applicants request the Office action comply with the MPEP and provide a proper

In re TON ET AL., Application No. 09/776,794
Amendment A

rejection for each claim (or withdraw the rejection for each claim), so Applicants can be put on notice of the reason for the rejection, have an opportunity to respond to the rejection.

Applicants are confused by these rejections (except for the typographical error of "first resources" instead of "first resource") as one skilled in the art after reading the specification would clearly understand these terms. As such, Applicant respectfully traverses these rejections. Moreover, the burden is on the Office to establish a *prima facie* case of indefiniteness, and the test for definiteness under 35 U.S.C. § 112, second paragraph is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." This MPEP § 2173.02 (citations omitted).

In regards to the rejection specified in paragraph 3(a)(i): Applicants respectfully traverse this rejection of claim 1 as being indefinite for the reason that the indication is not explicitly clear in the claim language. Claim 1's element of maintaining an indication of an allocated semaphore for each of a plurality of resources is definite and understood by one skilled in the art especially after reading the specification and complies with § 112, second paragraph. Moreover, the claim specifies that the data structure is updated by an indication of the first semaphore. The breadth of a claim is not indefiniteness. MPEP § 2183.04. Applicants submit that the scope of the subject matter embraced by the claim is clear, and Applicants have not otherwise indicated that they intend the invention to be of a scope different from that defined in the claim. As such, the claim complies with 35 U.S.C. 112, second paragraph. *Id.* Moreover, dependent claims specify additional limitations such as to the determining operation (e.g., claim 2) and to the data structure (e.g., claim 3).

In regards to the rejection specified in paragraph 3(a)(ii): claim 11 is cancelled here without prejudice.

In regards to the rejection specified in paragraph 3(a)(iii): Applicants respectfully traverse the claim rejection for at least the same reasons presented in relation to claim 1, as one skilled in the art would clearly understand what is meant by an indication maintained in a data structure of an allocated semaphore for each of a plurality of resources.

In re TON ET AL., Application No. 09/776,794
Amendment A

In regards to the rejection specified in paragraph 3(a)(iv): Applicants respectfully traverse the claim rejection as Applicants submit that the scope of the subject matter embraced by the claim is clear, and Applicants have not otherwise indicated that they intend the invention to be of a scope different from that defined in the claim. 35 USC § 112, second paragraph does not require claim 17 to recited a limitation upon from where the request was received. Rather, the claim is definite as the communication mechanism is configured to receive a request for access to a particular resource and to signal allowance or denial of access to the particular resource, with the meaning of which well understood by one skilled in the art.

In regards to the rejection specified in paragraph 3(a)(v): Applicants respectfully traverse the rejections of claims 18 and 21 as Applicants submit that the scope of the subject matter embraced by the claim is clear to one skilled in the art after reading the specification, and Applicants have not otherwise indicated that they intend the invention to be of a scope different from that defined in the claim. Additionally, claims 18 and 21 have been cancelled herein.

In regards to the rejection specified in paragraph 3(b): Applicants appreciate the discovery of the typographical error, and have corrected "resources" to be "resource" and therefore request the rejection be withdrawn.

For at least these reasons, Applicants believe that all claims comply with § 112, and request these rejections be withdrawn.

Paragraph 4. Claims 1-24 stand rejected under 35 USC § 103(a) as being anticipated by Perks (Applicants assume the Office means US Patent 6,532,487), in view of George et al., US Patent 4,965,718.

Applicants respectfully traverse the rejections of all of these claims as the Office action fails to establish a *prima facie* case of obviousness as Perks, alone or in combination with George et al. neither teaches nor suggests all the claim elements and limitations as required by the MPEP. The burden is on the Office Action to establish a *prima facie* case of obviousness, which has not been done as the MPEP requires, *inter alia*, that:

In re TON ET AL., Application No. 09/776,794
Amendment A

"the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure."

MPEP § 706.02(j) (*citing In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991))(emphasis added).

Paragraphs 5-6. Applicants traverse the rejection of claim 1, as Perks, alone or in combination with George et al., neither teaches nor suggests at least the claim limitation of "after determining that the first resource is available: allocating a first semaphore, and updating the data structure with the first resource and an indication of the first semaphore" nor "in response to determining that the first resource is available: allocating a first semaphore, and updating the data structure with indications of the first resource and the first semaphore, and signaling to the first task that the first resource is available" as recited after entering the amendments presented herein to correct typographical errors.

First, the Office merely states that "Perks teaches allocating a semaphore when the resource is available and updating (modifying) the data structure with the first resource..." but fails to provide a citation so Applicants are not put on notice to what the Office is referencing. Moreover, the Office fails to consider all of the limitations of the recited claim element, that being "after" or "in response to" "determining that the first resource is available".

Moreover, Applicants believe one skilled in the art would understand Perks differently than the Office. Applicants believe Perks simply teaches that a semaphore can be shared among classes, in that a class can be assigned to one semaphore but a semaphore can be assigned to more than one class. *Perks*, abstract. A mapping table is used to identify these mappings. *Id.* Perks does state in its Summary of the Invention that "the semaphore mapping can be performed statically at time of compilation or dynamically during time of execution." The specification and figures of Perks clarifies what is meant by this statement, as Applicants believe these statements to mean that it can be done at compile time, or dynamically during run-time such as when a DLL

In re TON ET AL., Application No. 09/776,794
Amendment A

is used for implementing the semaphore manager. *See*, col. 4, lines 35-37. In fact, Perks teaches that constant values are used to identify the semaphore to which a class is identified. Col. 5., lines 32-46 (const SEM_MAP[] with constant values defined for SEM_1 to SEM_3).

Perks does not teach that these assignments are dynamic in the manner recited in the claims, such as making an assignment of a semaphore after/in response to determining that the resource is available. For at least these reasons, independent claim 1 and its dependent claims 2-10 are believed to be allowable.

Additionally, Applicants agree with the Office that Perks fails to teach all the claim elements, and Applicants respectfully traverse the motivation and rationale presented in the Office action for their combination. The Office states that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of signaling the first task as being available in order to increase the efficiency of the system by providing synchronization of the processes (col. 1, lines 41-50)."

Applicants do not understand to what the Office references. Perks, col. 1, lines 41-50 states: "In order to take advantage of the multi-tasking capabilities, many object-oriented systems that were designed to run as a single execution unit today will soon be migrated towards a multi-tasking computing environment. Within an object-oriented computing environment, there are at least five different schemes of allocating semaphores to classes and objects: (1) one global semaphore, (2) one semaphore per group of classes, (3) one semaphore per class, (4) one semaphore per group of objects, and (5) one semaphore per object. Each of the five different semaphore allocation schemes is depicted in FIG. 7. In the example...." George et al., col. 1, lines 41-50 states: "One type of computing system particularly ripe for improvements in processing efficiency is that known in the art as parallel processing. In a parallel processing system, multiple microprocessors of the type described above are connected in electronic configurations which permit them to perform separate computing tasks, each task divided out of a larger application program, or parent. Tasks can comprise two types, parent tasks and child tasks, the former including control and synchronization information for the latter."

In re TON ET AL., Application No. 09/776,794
Amendment A

Neither one of these teaches provides a motivation for selecting parts of Perks and parts of George et al., and then to make a combined system. The statement in the Office action, from wherever derived, appears to mean that semaphores can be used to synchronize processes. Even so, this fails to teach what parts from each reference to extract and the manner in which to combine. Also, what processes of Perks is the Office trying to synchronize?

For at least these reasons, claims 1-10 are believed to be allowable.

Paragraphs 7-15. Dependent claims 2-10 are believed to be allowable for at least the reasons presented herein in relation to independent claim 1, from which they depend.

Additionally, Applicants further traverse the rejection of claim 2 as the Office presents in its rejection a different data structure in claim 1 (that of Perks) and in claim 2 (and that of George et al.), but the claims require the same data structure (i.e., "a data structure" and "the data structure") and the rejections must be the same to comply with the MPEP.

Additionally, Applicants further traverse the rejection of claim 3 as the Office fails to present a rejection of all limitations of the claim element "wherein maintaining the data structure includes" that recited in the Office action. Moreover, Applicants submit that Perks teaches away, especially and even by the statements cited by the Office, from such a limitation as Perks does not make a distinction of between the types of access to the shared data protected by a semaphore. Even the example of the Semaphore Manager Class in col. 5, line 12 to col. 6, line 6, fails to provide any storage for the access type.

Additionally, Applicants further traverse the rejection of claim 4 as the cited portion of George et al. fails to teach current access types, let alone, a read access type. Also, the claim 4 depends from claim 3, and so again the Office is convoluting the data structures of the references.

Additionally, Applicants further traverse the rejection of claim 6 as the cited portion of George et al. fails to teach referencing the data structure to identify the resource is currently read-locked and recognizing that the second request corresponds to a read access request.

In re TON ET AL., Application No. 09/776,794
Amendment A

Additionally, Applicants further traverse the rejection of claim 7 as the cited portion of George et al. fails to teach referencing the data structure to identify the resource is currently read-locked and recognizing that the second request corresponds to a write access request.

Additionally, Applicants further traverse the rejection of claim 8 as the cited portion of George et al. fails to teach referencing the data structure to identify the resource is currently write-locked.

Additionally, Applicants further traverse the rejection of claim 9 as the cited portions of Perks and George et al. fails to teach all the recited limitations. First, claim 9 recites the limitation of the second request including a timeout value. The cited portion of Perks states that the Request method requests the semaphore with a time-out (and fails to define this elsewhere). This neither teaches nor suggests that the request itself includes a time-out value. Moreover, George et al., especially in claim 2, specifies that in response to a time-out condition, the step of "repeating said reading and sending steps when said semaphore data is altered" is terminated. This neither teaches nor suggests "signaling to the second task that the first resource is not available" as recited in claim 9 of the present application.

Additionally, Applicants further traverse the rejection of claim 10 as the cited portions of Perks fails to teach all the recited limitations. First, the Office cites portions of columns 63, 64, and 63, presumably of Perks as that is the reference being discussed in this paragraph. However, neither Perks (Applicants assume the Office means US Patent 6,532,487) nor George et al., US Patent 4,965,718 have this many columns. Moreover, the Office in rejecting claim 10 relies on Perks, but the Office admits in Paragraph 6 of the Office action that Perks teaches signaling a task, and claim 10 requires "signaling to the second task that the first resource is not available."

For at least these reasons, independent claim 1, and its dependent claims 2-10 are believed to be allowable.

Paragraphs 17-21. Applicants traverse the rejections of claims 12-16 for at least the same reasons presented herein in relation to other claims, especially in relation to independent

In re TON ET AL., Application No. 09/776,794
Amendment A

claim 1, especially as Perks, alone or in combination with George et al., neither teaches nor suggests at least the claim limitation of "after determining that the resource is available: allocating a first semaphore, and updating the data structure with the first resource and an indication of the first semaphore." Similarly, Perks nor George et al. neither teaches nor suggests "after determining whether or not that the first resource is available: allocating a second semaphore, and updating the data structure with the second semaphore." Moreover, George neither teaches nor suggests these limitations as implied by the Office's motivation for the combination of these references, and Applicants make a demand for evidence as to from where the teaching of "in order for the process to keep going and continue for the next request" came (e.g., from what prior art), as well as why such teaching teaches to selected the stated portions of each reference, and why they should be combined in the manner stated in the Office action. Applicants further believe claims 14-16 are allowable for the additional reasons presented in relation to claims 6, 8 and 12.

Moreover, the Office action fails to address all the limitations of claim 16, as it defers to its rejection of claim 12, but claim 16 contains additional limitation(s), such as the third access corresponding to a read access request.

For at least these reasons, claims 12-16 are believed to be allowable.

Final Remarks. In view of the above remarks and for at least the reasons presented herein, all pending claims are believed to be allowable over the prior art of record, the application is considered in good and proper form for allowance, and the Office is respectfully requested to issue a timely Notice of allowance in this case. Applicant requests any and all rejections and/or objections be withdrawn. If, in the opinion of the Office, a telephone conference would expedite the prosecution of the subject application, the Office is invited to call the undersigned attorney.

If the Office action complies with MPEP § 706 and specifically 37 CFR 1.104(c)(2), then Perks and George et al. are the best references available. As these references, alone or in

In re TON ET AL., Application No. 09/776,794
Amendment A


combination, neither teach nor suggest all the claim elements and limitations as required by the MPEP, then all pending claims are believed to be allowable, and Applicants request the claims be allowed and the application pass to issuance.

Applicants believe no extension of time is required, but hereby petitions any such extension of time required and authorizes the Commissioner to charge any associated fees to Deposit Account No. 501430. Moreover, the Commissioner is hereby generally authorized under 37 C.F.R. § 1.136(a)(3) to treat this communication or any future communication in this or any related application filed pursuant to 37 C.F.R. § 1.53 requiring an extension of time as incorporating a request therefore, and the Commissioner is hereby specifically authorized to charge Deposit Account No. 501430 for any fee that may be due in connection with such a request for an extension of time. Moreover, the Commissioner is hereby authorized to charge payment of any fee due any under 37 C.F.R. §§ 1.16 and § 1.17 associated with this communication or any future communication in this or any related application filed pursuant to 37 C.F.R. § 1.53 or credit any overpayment to Deposit Account No. 501430.

Respectfully submitted,
The Law Office of Kirk D. Williams

Date: November 26, 2004

By


11/26/2004
Kirk D. Williams, Reg. No. 42,229
One of the Attorneys for Applicant
CUSTOMER NUMBER 26327
The Law Office of Kirk D. Williams
1234 S. OGDEN ST., Denver, CO 80210
303-282-0151 (telephone), 303-778-0748 (facsimile)